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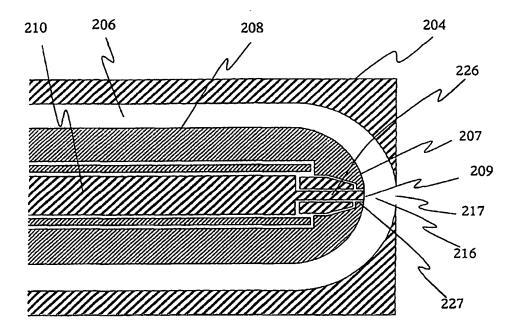
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Declarations under Rule 4.17:

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- of inventorship (Rule 4.17(iv)) for US only

[Continued on next page]

(54) Title: FAIMS APPARATUS AND METHOD WITH ION DIVERTING DEVICE



177600/10 6

(57) Abstract: A method and apparatus for selectively transmitting ions using a FAIMS analyzer is disclosed. An ion diverter is included within the FAIMS analyzer for afffecting the trajectories of ions after separation to direct the ions in a known fashion. The ion diverter is optionally a gas flow source or an electrode for generating an electrical field to alter ion flow.

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A. CLASSIFICATION OF SUBJECT MATTER IPC 7 H01J49/04 G01N27/64 H01J49/42 According to International Patent Classification (IPC) or to both national classification and IPC B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols)			
B. FIELDS SEARCHED			
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Minimum documentation searched (classification system followed by classification symbols)			
IPC 7 HO1J GO1N			
Documentation searched other than minimum documentation to the extent that such documents are included in the fields search	ed		
Electronic data base consulted during the International search (name of data base and, where practical, search terms used) EPO-Internal, WPI Data, PAJ			
C. DOCUMENTS CONSIDERED TO BE RELEVANT			
Category * Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.		
GUEVREMONT R ET AL: "ATMOSPHERIC PRESSURE ION FOCUSING IN A HIGH-FIELD ASYMMETRIC WAVEFORM ION MOBILITY SPECTROMETER" REVIEW OF SCIENTIFIC INSTRUMENTS, AMERICAN INSTITUTE OF PHYSICS. NEW YORK, US, vol. 70, no. 2, February 1999 (1999-02), pages 1370-1383, XP000875375 ISSN: 0034-6748 page 1378; figure 13	1,13		
A US 5 420 424 A (CARNAHAN BYRON L ET AL) 30 May 1995 (1995-05-30) cited in the application abstract; figure 1	1,13		
Further documents are listed in the continuation of box C. X Patent family members are listed in an	nnex.		
A* document defining the general state of the art which is not considered to be of particular relevance E* earlier document but published on or after the international filing date L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) O* document referring to an oral disclosure, use, exhibition or other means P* document published prior to the international filing date but later than the priority date claimed A* document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. *A* document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention *Cournet of particular relevance; the claimed invention cannot be considered novel or cannot be considered in invention cannot be considered invention cannot be considered invention cannot be considered invention cannot be considered or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. *A* document published after the international filing date			
Date of the actual completion of the International search 27 June 2002 Date of mailing of the international search 04/07/2002	report		
Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl. Fax: (+31-70) 340-3016 Hulne, S			

INTERNATIONAL SEARCH REPORT

ternational Application No
PCT/CA 01/00309

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Category °	rtion) DOCUMENTS CONSIDERED TO BE RELEVANT Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.		
		1 12		
A	CARNAHAM B ET AL: "FIELD ION SPECTROMETRY - A NEW ANALYTICAL TECHNOLOGY FOR TRACE GAS ANALYSIS" PROCEEDINGS OF THE ANNUAL ISA ANALYSIS DIVISION SYMPOSIUM, XX, XX, no. 29, April 1996 (1996-04), pages 65-94, XP000863733 page 89	1,13		
A		1,13		

INTERNATIONAL SEARCH REPORT

Information on patent family members

PCT/CA 01/00309

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
US 5420424	A	30-05-1995	CA	2148166 A1	30-10-1995
			DE	69524282 D1	17-01-2002
			EP	0679886 A1	02-11-1995
			FI	951910 A	30-10-1995
			IL	113468 A	20-11-1997
			JP	8054373 A	27-02-1996
			JP 	8054373 A	27-02-1996

Form PCT/ISA/210 (patent family annex) (July 1992)

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